

REMARKS

Claims 1-30 are pending in this application. By this Amendment, claims 1-4, 7-19 and 22-30 are amended. Reconsideration of the application is respectfully requested.

Applicants appreciate the indication that claims 7, 8, 11, 12, 22, 23, 26 and 27 contain allowable subject matter and would be allowable if rewritten in independent form including all the features of the respective rejected base claim and any intervening claims. Claims 7, 8, 11, 12, 22, 23, 26 and 27 are amended to recite all the features of their respective base claim, and thus, Applicants submit that claims 7, 8, 11, 12, 22, 23, 26 and 27 are in condition for allowance. For the reasons discussed below, Applicants submit that all remaining claims are also allowable.

Claims 1-4 and 16-19 are rejected under 35 U.S.C. §103(a) over U.S. Patent No. 6,674,917 to Hisaki et al. (Hisaki) in view of U.S. Patent No. 5,515,159 to Sites et al. (Sites). The rejection is respectfully traversed for at least the following reasons.

With regard to claims 1, 2, 16 and 17, neither Hisaki nor Sites disclose or suggest an image generation system for generating image or a computer-usable program embodied on an information storage medium or in a carrier wave wherein, *inter alia*, computation for obtaining information relating to at least one of the brightness and color of a primitive surface constructing the simple object is performed based on an angle difference between a line-of-sight vector of a virtual camera and a light vector from the light source, without using a normal vector for each primitive surface, as recited in amended claims 1, 2, 16 and 17. For at least these reasons, the combination of Hisaki and Sites fails to disclose or suggest all the features of claims 1, 2, 16 and 17.

With regard to claims 3, 4, 18 and 19, page 3 of the Office Action states that col. 2, lines 13-26 of Hisaki discloses an image generation system wherein computation for obtaining information relating to at least one of the brightness and color of a primitive surface

constructing the simple object is performed based on an angle difference between a line-of-sight vector of a virtual camera and a light vector from the light source.

The identified portion of Hisaki states that the images of an object body are photographed with light sources disposed in a plurality of different positions, and from the change in colors for the light source positions, that is, from the change in diffusion of light reflected on the surface of the object body, the parameters to be the coefficient for deducing a color that is actually observed from light source positions such as an original color or inclination on the surface of the object body are measured. Hisaki further states that using these parameters, an image can be synthesized for a light source position.

For light-source processing, a normal vector for primitive surfaces is conventionally used, and Hisaki discloses that an object body is irradiated from a certain direction with electron beams and the reflected electrons on the surface of the object body are diffused toward respective directions. That is, in Hisaki, by measuring the diffusion of the electrons, the normals on the surface of the object body are found (col. 2, lines 8-11). Thus, Hisaki also uses the normal vector and fails to disclose or suggest using a line-of-sight vector of a virtual camera.

For at least these reasons, Applicants submit that Hisaki fails to disclose or suggest obtaining the information relating to at least one of the brightness and color of a primitive surface based on an angle difference between a line-of-sight vector of a virtual camera and a light vector from the light source. Applicants submits that Sites fails to overcome these deficiencies of Hisaki, as applied to claims 3, 4, 18 and 19. For at least these reasons, the combination of Hisaki and Sites fails to disclose or suggest all the features of claims 3, 4, 18 and 19.

It is respectfully requested that the rejection be withdrawn.

Claims 5, 6, 20 and 21 are rejected under 35 U.S.C. §103(a) over Hisaki in view of Sites and further in view of U.S. Patent No. 5,786,822 to Sakaibara et al. (Sakaibara). The rejection is respectfully traversed for at least the following reasons.

As discussed above, Hisaki fails to disclose or suggest all the features of claims 3, 4, 18 and 19, from which claims 5, 6, 20 and 21 respectively depend. Applicants submit that both Sites and Sakaibara fail to overcome the deficiencies of Hisaki, as discussed above with regard to claim 3, 4, 18 and 19. For at least these reasons, Applicants submit that the combination of Hisaki, Sites and Sakaibara fails to disclose or suggest all the features of claims 5, 6, 20 and 21.

It is respectfully requested that the rejection be withdrawn.

Claims 9, 10, 24 and 25 are rejected under 35 U.S.C. §103(a) over Hisaki in view of Sites and further in view of U.S. Patent No. 5,898,169 to Nordbryhn. The rejection is respectfully traversed for at least the following reasons.

Claims 9, 10, 24 and 25 are amended to respectively depend from claims 7, 8, 22 and 23, which as discussed above are in condition for allowance. For at least these reasons, Applicants submit that claims 9, 10, 24 and 25 are also allowable.

It is respectfully requested that the rejection be withdrawn.

Claims 13-15 and 28-30 are rejected under 35 U.S.C. §103(a) over Hisaki in view of Sites and further in view of U.S. Patent No. 5,786,908 to Liang. The rejection is respectfully traversed for at least the following reasons.

Claims 13, 14, 28 and 29 are amended to respectively depend from claims 7, 8, 22 and 23, which as discussed above are in condition for allowance. For at least these reasons, Applicants submit that claims 13, 14, 28 and 29 are also allowable.

With regard to claims 15 and 30, neither Hisaki, Sites nor Liang disclose or suggest an image generation system for generating image or a computer-usable program embodied on an

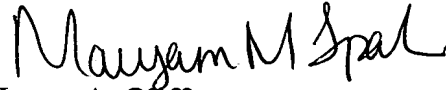
information storage medium or in a carrier wave wherein, *inter alia*, computation for obtaining information relating to at least one of the brightness and color of a primitive surface constructing the simple object is performed based on an angle difference between a line-of-sight vector of a virtual camera and a light vector from the light source, without using a normal vector for each primitive surface, as recited in amended claims 15 and 30. For at least these reasons, Applicants submit that the combination of Hisaki, Sites and Liang fails to disclose or suggest all the features of claims 15 and 30.

It is respectfully requested that the rejection be withdrawn.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of all pending claim are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachments:

Amendment Transmittal

Petition for Extension of Time

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